

Potassium Carbonate", Plasma Sources Science and Technology, Vol. 12, (2003), pp. 389-395:

Abstract

A hydrogen plasma with intense extreme ultraviolet and visible emission was generated from low pressure hydrogen gas (0.1-1 mbar) in contact with a hot tungsten filament only when the filament heated a titanium dissociator coated with K_2CO_3 above $750^\circ C$. The electric field strength from the filament was about 1 V/cm, two orders of magnitude lower than the starting voltages measured for gas glow discharges. The emission of the H_α and H_β transitions as well as the L_α and L_β transitions were recorded and analyzed. The plasma seemed to be far from thermal equilibrium, and no conventional mechanism was found to explain the formation of a hydrogen plasma by incandescently heating hydrogen gas in the presence of trace amounts of K_2CO_3 . The temporal behavior of the plasma was recorded via hydrogen Balmer alpha line emission when all power into the cell was terminated, and an excessive afterglow duration (2 seconds) was observed. The plasma was found to be dependent on the chemistry of atomic hydrogen with potassium since no plasma formed with Na_2CO_3 replacing K_2CO_3 and the time constant of the emission following the removal of all of the power to the cell matched that of the cooling of the filament and the resulting shift from atomic to molecular hydrogen. Our results indicate that a novel chemical power source is present that forms the energetic hydrogen plasma that is a potential new light source.

The Secret Committee has offered no plausible alternative explanation as to why a very energetic plasma should form with the heating of trace amounts of an inorganic compound and low pressure hydrogen gas. Furthermore, the Committee cannot explain the existence of a hydrogen plasma when there is no power input to the cell.

For these many reasons, Applicant submits that the experimental evidence of chemically generated plasmas fully supports the formation of lower-energy hydrogen. Furthermore, Applicant submits that the Committee should look at all of Applicant's experimental evidence as a whole to evaluate what it fairly shows, instead of looking at each piece of evidence in a vacuum. The overwhelming amount of experimental evidence generated by Applicant and third parties and

disclosed in over 100 articles fully supports the formation of lower-energy hydrogen. The fact that the theory of Quantum Mechanics cannot explain this formation of lower-energy hydrogen is inconsequential to the determination of patentability.

Protest of Secret Committee's Attack On the Credibility Of Applicant's Experimental Data Based On The False Premise That It Was Not Subject To Appropriate Review Or Published In Scientifically Qualified Journals

Applicant is once again disappointed to learn that the Secret Committee has turned its back on an agreed upon standard, this time involving its self-imposed requirement that Applicant publish his experimental data supporting the existence of lower-energy hydrogen in peer-reviewed scientific journals. [See pages 4-5 of the pending Office Action and pages 1-2 of the attached Appendix] Incredibly, the Committee, on highly questionable grounds, summarily dismisses the entirety of that data. Applicant protests these arbitrary actions in the strongest terms possible and requests that the Committee reconsider its tenuous position.

To fully comprehend the unfairness of the Committee's dismissal of Applicant's scientific data, it should first be noted that it was the Committee that required Applicant, over his strenuous objections, to publish that data in peer-reviewed scientific journals. This requirement stemmed from an Interview held on February 21, 2001, during which Examiner Vasudevan Jagannathan refused to take seriously the data presented at the Interview because it had not been subjected to the peer-review process required by most scientific journals prior to publication. For instance, as discussed above, Examiner Jagannathan mischaracterized Applicant's highly reliable spectroscopic data as nothing more than a "bunch of squiggly lines."

Despite the fact that the Committee has never cited any authority to support its publication requirement, Applicant expended considerable effort—not to mention millions of research dollars—complying with it. Yet, now that Applicant has published his experimental data in over 50 technical papers appearing in a number of respected scientific journals, with another 50-plus

papers soon to follow, Applicant is advised for the first time that those efforts were for naught.

In summarily invalidating all of Applicant's scientific evidence appearing in his submitted journal articles, the Committee first mischaracterizes the extent to which Applicant's articles have been peer reviewed. [See Appendix to Pending Office Action at page 2] For example, it incorrectly states that the articles identified as Reference Nos. 2-5, 8-13, 15-23, 25, 26, 28-30, 34, 37, 47 and 48 "have not been peer reviewed (just submitted)."¹⁴³ Based on that mistaken belief, the Committee concludes that those articles "do not (yet) have the credibility that peer reviewed articles have." [Id.]

Applicant finds somewhat amusing the Committee's following statement that "[b]ecause of their fundamental flaws, [these articles] are not likely to pass the peer review process." [Id.] Given that these and other cited articles have in fact passed the peer review process and, therefore, "have the credibility that peer reviewed articles have," this application is in condition for allowance by the Committee's own standards.

It then dismisses the totality of Applicant's data, claiming that "the 80 publication papers presented as attachments to Applicant's Response to Final Office Action have failed to provide valid experimental evidence for the existence of the hypothetical hydrinos. According to the Committee, "**NONE** of Applicant's 'compelling' evidence are [sic] valid simply because ... (a) [t]hey are not published in scientifically qualified (e.g., refereed) journals."¹⁴⁴ [See page 4 of the pending Office Action and pages 1-2 of the attached Appendix]

Included among these supposedly unqualified journals in which Applicant's experimental data appear are, for example:

¹⁴³ The Committee should also recognize that the current complete list of Applicant's peer-reviewed articles includes reference Nos. 1-34, 37-38, 40-43, 45-52, 54, 56-57, 59-61, 63, 67, 69, and 90. Applicant expects many more of his submitted journal articles to also complete the peer-review process and be published despite efforts by Dr. Zimmerman to prevent such publication.

¹⁴⁴ The Committee also claims that other evidence also belongs to this category, including Applicant's book entitled "Grand Unified Theory of Classical Quantum Mechanics," because it is not scientifically evaluated, and conference proceedings, because they "do not belong to refereed publications." Applicant, also protests the Committee's dismissal of this evidence as contrary to established PTO procedures and standards.

Electrochimica Acta;
IEEE Transactions on Plasma Science;
International Journal of Hydrogen Energy;
Journal of Applied Physics;
Journal of Molecular Structure; and
New Journal of Physics.

Applicant is shocked to learn that the PTO no longer considers journals such as these—still held in high esteem by the scientific community—to be credible publications.¹⁴⁵ In light of this astonishing revelation, Applicant is entitled to know in significantly more detail the precise basis upon which the Committee has concluded that these journals are not credible. More specifically, in evaluating technical papers submitted in support of patent applications, what standards does the Committee apply in deciding whether a particular journal is “scientifically qualified”? Assuming such recognized standards are in place—though highly doubtful—the Committee also should be required to show that these standards have been applied consistently to all patent applicants and not applied just arbitrarily as to this one Applicant.

Applicant further requests that the Committee provide a list of those scientific journals it now considers to be sufficiently credible under these standards. This way, Applicant will at least have the option of submitting his technical papers to only those so-called “credible” journals that the Committee is willing to take seriously.¹⁴⁶

Applicant suspects that these standards do not exist and that, consistent with past practices in other BlackLight cases, the Committee has once again erected arbitrary barriers against this one particular Applicant to ensure that allowance is not an option in this case. Applicant again directs the Committee’s

¹⁴⁵ No doubt, the many patentees who have relied on scientific data published in these same esteemed journals to support patentability—as well as the journal organizations themselves—would be shocked too.

¹⁴⁶ It would have been extremely helpful if, back in February 2001, when Examiner Jagannathan required the publication of scientific data, he had informed Applicant that the Committee had a narrow list of scientific journals it would consider credible. This would have saved Applicant considerable time and expense.

attention to the February 11, 2003 Interview, during which Quality Assurance Specialist Douglas McGinty gave specific direction as to what evidence Applicant needed to present to get claims allowed.

The Committee's failure to follow that direction is similar to what occurred in prosecuting Applicant's Application Serial No. 09/513,768. In that case, Examiner Wells also gave Applicant direction regarding what evidence he wanted to see presented for allowance:

It is the Examiner's opinion that demonstration of the existence of a novel hydrogen series having lower energy states is best demonstrated by a shift in the Lyman series lines towards the far ultra-violet. This data should be compared to the regular hydrogen series. Unfortunately, this analysis and data is missing in the Applicant's experimental evidence presentations. [July 29, 2002 Final Office Action at page 2]

And just as Applicant has provided the evidence Specialist McGinty requested to demonstrate the existence of novel hydrogen species having lower energy states, so too did Applicant present the evidence Examiner Wells requested showing "a shift in the Lyman series lines towards the far ultra-violet . . . [as] compared to the regular hydrogen series." Not coincidentally, the Committee in this case also renounced all representations that led Applicant to believe that allowance was a realistic option and, instead, dismissed the experimental data appearing in Applicant's journal articles in its totality.

Despite these impediments, Applicant remains undeterred. Thus, even under the PTO's newly minted standards for evaluating his published technical papers, Applicant is prepared to show that those standards have been clearly met. Indeed, Applicant has first-hand knowledge of, and can attest to, the rigorous peer review process that preceded publication of many of his papers. In most cases, Applicant was required to conduct additional experimentation and to rewrite portions of his papers to satisfy the numerous PhD scientists conducting the review. Based on that rigorous review process, the Committee has no basis for claiming that any of the journals that have published Applicant's evidence are not "scientifically qualified."

If the Committee is aware of specific facts—as opposed to mere speculation—contradicting Applicant's personal experience with that review process, it is incumbent upon the PTO to come forward with that information. The Committee's failure to do so merely highlights the arbitrary and capricious manner in which it has treated Applicant's experimental evidence.

Regardless of the actual number of Applicant's technical papers that meet the Committee's new arbitrary standards, for those papers that do meet them by having been published in scientifically qualified journals, after undergoing the appropriate review process, those papers must now be deemed credible under those standards. Applicant, therefore, requests that the Committee give those papers the proper weight they are due and issue Applicant his patent based on the published scientific data demonstrating the existence of lower energy states of hydrogen.

Applicant cites for further consideration additional scientific data in support of his claimed invention that has been published in peer-reviewed technical papers appearing in the following new journals:

- Applied Physics Letters;
- Chemistry of Materials;
- Europhysics Letters;
- European Journal of Physics;
- European Physics Journal B;
- Fuels and Energy;
- Journal of Hydrogen Energy;
- Journal of New Materials for Electrochemical Systems;
- Journal of Physics D, Applied Physics;
- Journal of Physical Chemistry A;
- Journal of Plasma Physics;
- Journal of Quantitative Spectroscopy and Radiative Transfer;
- Journal Vacuum Science and Technology;
- Materials Characterization;
- Optical Materials;

Physics Essays;
Physica B;
Plasma Sources Science and Technology;
Solar Energy Materials & Solar Cells;
Thermochimica Acta;
Thin Solid Films;
Vacuum; and
Vibrational Spectroscopy.

In view of the new standards being imposed on evaluating the credibility of Applicant's technical papers, it is only fair that the reference materials cited in the Appendix attached to the pending Office Action be subjected to the same standards. Even upon cursory inspection, it is evident that many of these materials have not been published in accredited journals and most certainly have not been subjected to any peer review, as compared to Applicant's technical papers that have been peer-reviewed in the above-listed Journals. Those materials, therefore, should not be afforded any credibility whatsoever in accordance with the Committee's own analysis.

**Reliance by Examiner Souw on His Own Published Papers
to Reject Applicant's Claims on Theoretical Grounds is Blatantly Unfair**

Applicant notes with dismay the citation in the Appendix to Examiner Souw's own technical papers published in the journal *Physica*. The citation of those papers against Applicant's claims on theoretical grounds is inherently unfair for several obvious reasons.

First, the Committee has failed to show that the journals in which those technical papers appear are any more "scientifically qualified" with appropriate review process than the journals that published Applicant's papers. Unless and until the PTO does so, the credibility of Examiner Souw's papers will remain an issue and should not be cited against Applicant.

Second, for Examiner Souw to cite his own technical papers against Applicant makes it even more unfair, as it limits the Examiner's ability to remain

impartial. How can an Examiner be expected to remain unbiased in the face of Applicant's critical arguments when it is his own technical paper that is the subject of those criticisms? The answer is obvious: he can't.

In any case, now that Examiner Souw has relied upon his own scientific research to support the Committee's rejections in this case, Applicant is entitled to know certain details of his background, including his technical education and past work experience.

Regarding the substance of Examiner Souw's arguments presented in the Appendix, it appears that Committee once again prefers engaging in a theoretical debate to the exclusion of Applicant's experimental evidence, pitting its favored quantum theory, with all of its far-fetched and disproved predictions, against Applicant's theory of classical quantum mechanics that correctly predicts the formation of lower-energy hydrogen.

Nevertheless, Applicant provides a complete and detailed response to each theoretical point raised in Examiner Souw's Appendix and requests that the Committee fully consider that response. [See Attachment, "Response to Souw Appendix"]. Applicant further requests that the Committee: (1) properly consider all of Applicant's experimental evidence appearing in peer-reviewed journal articles—much of it generated by independent third parties—rather than just a small isolated portion of that evidence, and (2) follow its own admitted standard and give those articles "the credibility that peer-reviewed articles have."

The Secret Committee's Attempt to Rewrite History

As noted above, the PTO issued Notices of Allowances in five BlackLight Patent applications, including this one, before those cases were withdrawn under highly suspicious circumstances. Now, the Secret Committee seeks to rewrite the file history in this case by stating on page 5 of the pending Office Action that "[e]arlier attachments (numbers below 57) are presumed to have been considered by the previous examiner and also found not to be persuasive." That statement is simply false.

It was precisely because the previous Examiner, Wayne Langel, properly evaluated the "earlier attachments" in significant detail that he determined Applicant was entitled to his patent. Thus, these "earlier attachments," which resulted in an indication of allowance, were obviously found by the previous Examiner to be persuasive, contrary to the Committee's reconstructed facts.

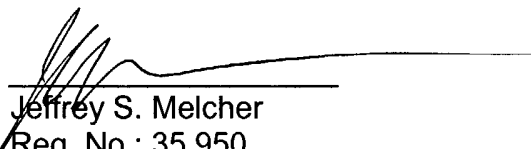
Applicant requests that the Committee correct the record to reflect the true facts in this case and that it follow Examiner Langel's example by properly evaluating the evidence of record and, once again, issuing a Notice of Allowance.

Conclusion

For the foregoing reasons, Applicant respectfully submits that the subject application fully satisfies the legal requirements of 35 U.S.C. §§ 101 and 112, first paragraph, and is therefore in condition for allowance. A Notice to that affect is earnestly solicited.

Respectfully submitted,
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45. B. Dhandapani, R. Mills, "Low Power MPCVD Synthesis and Characterization of Diamond Films on Silicon Substrates" (Inorganic/Solid State Session), June 9, 2003, 36th Middle Atlantic Regional Meeting of American Chemical Society, (June 8-11, 2003), Princeton University, Princeton, NJ.
44. X. Chen, R. Mills, "Calorimetric Study of Heat Generation by Catalytic Reaction of Atomic Hydrogen in Resonant Transfer Plasmas" (Fuel Cells Session), June 9, 2003, 36th Middle Atlantic Regional Meeting of American Chemical Society, (June 8-11, 2003), Princeton University, Princeton, NJ.
43. R. L. Mills, "Novel Catalytic Reaction of Hydrogen as a Potential New Energy Source", Division of Industrial and Engineering Chemistry, "Green Chemistry in the Design of Alternative Energy Strategies", symposium, Oral Presentation, 225th ACS National Meeting, (March 23-27, 2003), New Orleans, LA.
42. R. L. Mills, "Novel Catalytic Reaction of Hydrogen as a Potential New Energy Source," Monday, November 25, Room 216, Protocol Center, TA-3, Los Alamos National Laboratory.
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